

IN THE SPECIFICATION

Please amend paragraph 4 of the specification as follows:

(4) My preferred method of intercropping comprises strip cropping corn and soybeans
5 with subsequent application of green manure to the soil, and a layer of mulch upon the
topsoil surface. My method does not require pesticides, herbicides or artificial fertilizers
for healthy crops, [or] nor to obtain an effective ground cover and subsoil root network
with an effective moisture canopy and windbreak.

10

Please amend paragraph 6 of the specification as follows:

(6) Green manure plants combined with organic residue from deceased crops contains
desiccated soybean roots and nitrogen nodules which remain intact in the soil. During
the winter months, the intact root systems of these nonviable soybean and corn (and
15 viable wheat) also function as ground cover and subsoil root retention system. In this
manner, intact soybean and corn roots provide a physical soil network for the no till
planting of a green manure crop (for example wheat and buckwheat grass) in the fall or
early spring as the case may be. For example, wheat and buckwheat grass [[is]] are
planted in the fall or early spring, and [[is]] are subsequently tilled into the soil as green
20 manure while green and viable.

Please amend paragraph 17 as follows:

(17) Eadie et al. reported the effect of cereal cover crops upon weed control. The
investigators hand planted cereal seed within plots which were approximately 2.3 meters
25 wide and 8.0 meters long. The rows were approximately at 0.75 meter equidistantly

spaced intervals. These investigators seeded the cereal cover crops immediately after the ridging cultivation at the 11-12 leaf stage of corn plants. According to the Eadie report, corn grain yields remained unchanged by cover crops seeded at the 11-12 leaf stage of corn, compared to bare soil treatment controls. Allan G. Eadie et al., "Integration of

5 Cereal Cover Crops in a Ridge-Tillage Corn Production," WEED TECHNOLOGY 6 (3) (July-September 1992).

Please amend paragraph 20 as follows:

(20) At least one farmer has reported that closer planting of crops in rows results in more
10 equitable distribution of sunlight, soil moisture and nutrients. NO TILL FARMER (mid-
January 1986).

Please amend paragraph 25 as follows:

(25) Intercropping also comprises the growth of quick-maturing vegetable crops between
15 slower developing crops, to maximize available garden or field space. For example,
soybeans are planted in spring or summer at 2 to 3 pounds of seeds per 1,000 square feet
in traditional commercial situations. Soybeans are annuals and must be re-seeded every
year; however, they tolerate poor drainage well[[,]] and are ideal for nitrogen fixation.

Plants such as adzuki and muny beans are fairly resistant to insect pests.

20

Please amend paragraph 44 as follows:

(44) Figure 4 is a lateral view of mowed upper portions of wheat and buckwheat, grass
and resulting in a twenty foot path prior to tillage, and with adjacent unmowed upper
25 portions of wheat and buckwheat grass.

Please amend paragraph 47 as follows:

(47) Figure 7 illustrates soil of Figure 5 treated by a third tilling machine to a final greatest depth within a twenty-foot width path, and with adjacent unmowed upper portions of wheat and buckwheat grass.

5

Please amend paragraph 75 as follows:

(75) The recommended conventional no-till seeding machine 84 for wheat 17 and buckwheat 18 is a CASE 5400 no till grain drill. However, a JOHN DEERE 560 no-till drill, or a JOHN DEERE 1860 no-till air drill are also satisfactory. Referring to Figure 3, 10 by the following spring young wheat [[17]] and/or buckwheat plants [[18]] 18a comprise wheat grass 18a which is approximately 14 to 20 inches in height.

Please amend paragraph 78 as follows:

(78) Referring to Figure 3, ~~wheat grass 18a (consisting of the upper portions of young wheat [[17]] and/or buckwheat [[18]] plants 18a)~~ remains remain viable until it is mowed immediately prior to spring tilling. The top approximate one-half of the upper portions of young wheat and/or buckwheat plants ~~wheat grass 18a~~ is chopped and blended with organic debris 19 to become combined mulch 20, as explained in more detail *infra*. The remaining approximately one-half of the bottom portions of green 20 manure plants 44 (such as upper portions of young wheat and/or buckwheat plants ~~grass 18a~~), is tilled into soil 45 with organic debris 19 prior to spring seeding of intercropped commercial plants.

Please amend paragraph 79 as follows:

(79) Referring to Figure 4, in the preferred embodiment and best mode the farmer mows upper portions of young wheat and/or buckwheat plants ~~grass~~ 18a, residual corn stalks 5 and organic debris 19 approximately three inches to ten inches above soil 45. The determination of the exact height of mowed upper portions of young wheat and/or buckwheat plants ~~grass~~ 18a to properly cover soil 45 is empirical. This determination also depends upon leaf density of upper portions of young wheat and/or buckwheat plants ~~grass~~ 18a. Leaf density primarily depends upon nutrients in the soil, weather conditions, and time of the year, including the required 60 degrees Fahrenheit (F.) soil temperature. Consequently, each field has a different leaf density and different plant heights.

10

Please amend paragraph 80 as follows:

(80) Buckwheat [[17]] 18 is generally mowed along with wheat 17 ~~grass~~ 18a. However, buckwheat [[17b]] 18 can be reseeded with corn 10 and soybean seed 12 for a summer planting, to produce additional nutrients. Please see Figure 11. The recommended conventional machine for mowing upper portions of young wheat and/or buckwheat ~~grass~~ 18a, residual cornstalks 5 and residual soybean 16 stems (thereby creating combined mulch 20) is prior art INTERNATIONAL 650 Forage Harvester. This particular mowing machine comprises a cutting bar unit and is available from:

20 International Harvester Company
401 North Michigan Avenue
Chicago, Illinois 60611

Please amend paragraph 81 as follows:

25 (81) INTERNATIONAL 650 Forage Harvester mows, rakes and collects mowed green manure plants 44a and organic debris 19 for a lateral distance 101 of approximate twenty

feet across a field. INTERNATIONAL 650 Forage Harvester simultaneously mows and blows upper portions of young wheat and/or buckwheat plants grass 18a into towed forage wagon 51, for storage prior to mixing and chopping within bale chopper 108, infra. INTERNATIONAL 650 Forage Harvester both mows and collects upper portions 5 of young wheat and/or buckwheat plants grass 18a for larger commercial fields, while conventional small mowing and gathering tools are satisfactory for gardens and small fields.

Please amend paragraph 82 as follows:

10

(82) A 5460 or 5440 Forage Harvester with mower bar unit is also satisfactory, as well as other farm machinery for cutting and collecting mowed upper portions of young wheat and/or buckwheat plants grass 18a. Forage Harvesters are self-propelled forage harvesters 50 from John Deere, Inc. With a 5460 or 5440 Forage Harvester the farmer 15 mows an approximately 20 feet wide interval of upper portions of young wheat and/or buckwheat plants grass 18a in the first step of process 110. However, Forage Harvesters can only collect a portion of the mowed upper portions of young wheat and/or buckwheat plants grass 18a within a twenty-foot wide path, so two passes may be necessary.

20 Please amend paragraph 84 as follows:

(84) Immediately after mowing of the first twenty-foot width 101 of upper portions of young wheat and/or buckwheat plants grass 18a, the farmer quickly tills soil 45 with organic residue 19 (such as cornstalks 5) and a three-inch stubble of remaining soybeans

16, along with a portion of wheat grass 18a. Figure 5. A preferred conventional machine
58 tilling is the 3800 series field cultivator for larger commercial fields from:

AGCO® GLENCOE®

5 4205 River Green Parkway

Duluth, Georgia 30096

1-800-767-3221

or

Kuhn EL 201/400

10 5390 East Seneca Street

Vernon, New York. 13426-0840

Please amend paragraph 127 as follows:

(127) A John Deere 541 Series Loader 200 with attached fork lift 203 is the preferred

15 front end loader and forklift of choice. However other front end loaders 200 and fork lifts
203 are satisfactory, depending upon compatibility with a farmer's equipment. As seen in
Figure 13, front end loader 200 pushes seed drill 96 while corn planter 95 follows behind
tractor 97 and linearly deposits corn 10 within corn furrows 90. Referring to Figure 14, in
the best mode the farmer attaches corn planter 95 to tractor 97 posterior, using a three
20 point hitch 230a or a one point tug hitch 230b, and both of which are familiar to the
agricultural industry.

Please amend paragraph 134 as follows:

(134) Prior art bale chopper 108 chops organic debris 19 over soil 45, along with corn

25 stalks 5, soybean stems and mowed green manure plants 44a (preferably upper portions

of young wheat and buckwheat plants ~~grass~~ 18a) as combination mulch 20. Several seconds is the ideal maximum time interval between procedures for seeding and mulching during method 110. However, a time interval of no more than approximately two hours between seeding and mulching a twenty foot pass width is satisfactory.

5

Please amend paragraph 136 as follows:

(136) The preferred prior art forage box wagons 51 for temporarily storing large amounts of combined chopped mowed upper portions of young wheat and/or buckwheat plants

10 ~~grass~~ 18a and organic debris 19 is available from:

H&S Manufacturing Co., Inc.

2608 South Hume Avenue

P.O. Box 768

Telephone: 1-715-387-3414

15 Marshfield, Wisconsin 54449

Models: HD7+4 & HD Twin Auger;

HD7+4 HDTwin Auger-front and rear unload; and

power box-rear unload

20 Please amend paragraph 137 as follows:

(137) For smaller amounts of upper portions of young wheat and/or buckwheat plants ~~grass~~ 18a and organic debris 19, preferred Versa Vac storage box wagons (conventionally used for grass clippings and leaf pick-up) are available from:

Fuerst Brothers, Inc.

P.O. Box 427

Gibson City, IL.

1-800-435-9630,

5 Models: M180G, M500P, M500G, M900P, and M900G.

Fuerst Manure Spreaders are also satisfactory and are distributed by:

H.F.S. Tractor

1218 South 11th Street

Niles, Michigan

10 1-616-683-7272

Please amend paragraph 150 as follows:

(150) (b) Also early in May of the same growing season, green manure plants 44a and
15 organic crop debris 19 are mowed and raked. One portion of combined green manure 44(i.e, green manure plants and organic crop debris 19)is briefly stored for combination mulch 20, as described supra. In the best mode upper portions of young wheat ~~grass~~ 18a and/or buckwheat plants [[17]] 18a comprising green manure 44 are cut approximately three to ten inches above soil 45.

20 (i) approximately one/half of combination green manure 44 and organic residue 19 is tilled approximately four inches into soil 45.

(ii) the farmer then tills soil 45 and organic residue 19 to a depth of approximately nine to 14 inches in large commercial fields and approximately four to nine inches in depth in a garden. He then immediately seeds corn 10 and soybeans 12, covers them with